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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,721	08/28/2003	Masaomi Ebe	Q77168	6182
23373	7590	04/21/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			TALBOT, BRIAN K	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,721

Applicant(s)

EBE ET AL.

Examiner

Brian K. Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/28/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Claims 1-7 remain in the application.

Drawings

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

On pg. 6, under the title Brief Description of Drawings, Figs. 1 and 2 are recited as illustration of an "ordinary" PDP.

Claim Rejections - 35 USC § 112

3. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The method step in forming the display panel other than those claimed are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

In the specification on pg. 4, line 8-21, the disclosure states that simultaneous calcining of the electrode and dielectric material is known, however, defect occurs if the thermal properties

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of the binders (resins) are not properly matched. The specification fails to enable one skilled in the ability to chose the particular binders as well as the thermal properties which would prevent such "defects" as a result of the simultaneous calcining of the layers. The specification fails to recite any specific resin materials or the specific thermal properties suggested to prevent this occurrence.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1-7, the claims do not recite the process steps to form a display panel. The claims recite applying pattern-forming material, black material, conductive material and dielectric material and simultaneously calcining. The Examiner questions how these steps properly form a display panel.

With respect to claims 2 and 3, the claims are confusing as it is unclear whether the pattern forming material is comprised of powders of all of the components, i.e. silver, black inorganic pigment, resin and glass or if only the glass is present as powder. Clarification is requested.

With respect to claim 7, the claim is confusing as to how the dielectric layer is applied to cover the transparent electrodes and the bus-electrodes as the black material and conductive

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material are applied to the transparent electrodes prior to the dielectric layer. Clarification is requested.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-329,236 or Baret (6,680,008) or Hibino et al. (6,913,501) in combination with Ueoka et al. (6,538,381) or JP 2002-169486.

JP 11-329,236 teaches manufacture of substrate for plasma display. Electrode patterns are formed on a glass substrate by paste for electrode containing metal powder and organic binder, the dielectric material paste is applied to the electrode pattern and baking the electrode and dielectric material at the same time to produce the substrate for plasma display (abstract). The electrode paste includes silver powder, an organic binder (resin) and glass powder ([0016]-[0021]).

Baret (6,680,008) teaches a compound for producing electrodes and process for forming electrodes. A powder of conductive metal and a meltable metal along with resin and glass powder is used for the paste to form the electrodes. A dielectric layer is applied thereto and

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simultaneous firing of the two is performed. This leads to a reduction in yellowing of the substrate (abstract and col. 2, line 50 – col. 4, line 65)

Hibino et al. (6,913,501) teaches a compound for producing electrodes and process for forming electrodes. A powder of conductive metal and a meltable metal along with resin and glass powder is used for the paste to form the electrodes. A dielectric layer is applied thereto and simultaneous firing of the two is performed. This leads to a reduction in yellowing of the substrate (abstract and col. 1, line 1 – col. 3, line 65)

JP 11-329,236 or Baret (6,680,008) or Hibino et al. (6,913,501) fail to teach applying the electrode pattern by ink-jet method or a dispenser.

Ueoka et al. (6,538,381) teaches forming electrodes of a plasma display panel with electrode paste in a dotted pattern by a dispenser (abstract or col. 6, lines 40-45).

JP 2002-169486 teaches forming electrodes of a plasma display panel with electrode paste in a dotted pattern by a dispenser (abstract).

Therefore it would have been obvious at the time the invention was made to have modified JP 11-329,236 or Baret (6,680,008) or Hibino et al. (6,913,501) process by forming the electrode pattern by an ink-jet or dispenser as evidenced by Ueoka et al. (6,538,381) or JP 2002-169486 with the expectation of achieving similar success.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (2004/0232840) in combination with Ueoka et al. (6,538,381) or JP 2002-169486.

Aoki et al. (2004/0232840) teaches a plasma display panel and manufacture thereof. The electrode paste and dielectric layer are applied and simultaneously baked to form the plasma

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display. The simultaneous baking is more effective in preventing yellowing. The electrode paste is comprised of silver powder, glass powder and a binder resin. The silver paste is applied by thick-film or thin-film technology. The thick film being screen printing and the thin film being sputtering ([0144]-[0167]). Aoki et al. (2004/0232840) also teaches applying the electrode paste to transparent electrodes.

Aoki et al. (2004/0232840) fails to teach applying the electrode pattern by ink-jet method or a dispenser.

Features described above concerning Ueoka et al. (6,538,381) or JP 2002-169486 are incorporated here.

Therefore it would have been obvious at the time the invention was made to have modified Aoki et al. (2004/0232840) process by forming the electrode pattern by an ink-jet or dispenser as evidenced by Ueoka et al. (6,538,381) or JP 2002-169486 with the expectation of achieving similar success.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-329,236 or Baret (6,680,008) or Hibino et al. (6,913,501) in combination with Aoki et al. (2004/0232840) further in combination with Ueoka et al. (6,538,381) or JP 2002-169486.

Features described above are incorporated here.

JP 11-329,236 or Baret (6,680,008) or Hibino et al. (6,913,501) fail to teach transparent electrodes/ black material and conductive material thereon prior to the coating of the dielectric layer.

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Aoki et al. (2004/0232840) also teaches applying the electrode paste to transparent electrodes.

Ueoka et al. (6,538,381) or JP 2002-169486 teach applying the electrode pattern by ink-jetting or by a dispenser.


Therefore it would have been obvious at the time the invention was made to have modified JP 11-329,236 or Baret (6,680,008) or Hibino et al. (6,913,501) by applying the transparent electrodes/black material and electrodes as evidenced by Aoki et al. (2004/0232840) and to have applied the electrode pattern by an ink-jet device or a dispenser as evidenced by Ueoka et al. (6,538,381) or JP 2002-169486 with the expectation of achieving similar success as both structures would be subjected to the simultaneous baking and would be expected to reduce yellowing as taught by the art.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 4/12/06
Brian K Talbot
Primary Examiner
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BKT